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ABSTRACT

Research conducted in the United States has found that people exert more effort when they perform a task individually than when they do so in a group. This phenomenon has been labeled social loafing. To examine the transcultural generality of social loafing, 20 male and 20 female Chinese school children in Taiwan were selected from grades 2, 3, 6, and 9. They were asked to shout and clap their hands as loudly as possible alone and in pairs. Measures of sound production revealed social loafing in all but third grade males, suggesting, in light of other cross-cultural findings, that social loafing may be a transcultural phenomenon. Future research using other kinds of group task situations may find exceptions to this transcultural generality in some cultures. (Author/JAC)

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Social Loafing in the United States and China

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Abstract

Research conducted in the United States has found that people exert more effort when they perform a task individually than when they do so in a group. This phenomenon has been labelled "social loafing," and has been observed for a variety of tasks in situations in which group effort obscures identifiability of members' individual outputs. The present study examined the transcultural generality of social loafing. It was hypothesized that people such as the Chinese who are members of cultures high in group- or social-orientation, in comparison to individualistic U.S. culture, would form more cohesive groups and emphasize the benefit of the group over individual reward in group tasks, therefore evidencing either no social loafing or greater group than individual effort. Male and female Chinese schoolchildren in Taiwan selected from grades 3, 6, and 9 were asked to shout and clap their hands as loudly as possible alone and in pairs. Measures of sound production revealed social loafing among all but 3rd grade males, suggesting, in light of other cross-cultural findings, that social loafing may be a transcultural phenomenon. Several sources of this absence of a relationship between social loafing and cultural values are discussed, and it is suggested that future research employing other kinds of group task situations may find exceptions to this transcultural generality in some cultures.

Social Loafing in the United States and China

William K. Gabrenya, Jr., Bibb Latané, and Yue-Eng Wang

The "promise of social life" is that, through collective action, people can attain needed or valued goals that they would not be able to achieve as individuals acting in isolation. Lest we become overly enthusiastic about the fruits of people working in collectivities, however, several bodies of social research have suggested qualifications to these capabilities. In certain types of small working collectivities group products have been found to be either no better than or inferior to those of individuals. For example, research on coaction -- people performing individual tasks alone or together -- reveals superior performance on complex tasks for solitary rather than coacting individuals (Geen and Gange, 1977). Further, much of the research that has examined group versus individual problem solving (Shaw, 1976) and idea generation (brainstorming; Lamm & Trommsdorf, 1973) has observed greater proficiency or productivity among individuals than among groups.

A corollary to this "promise of social life" might be that there is something special about group activities, that people "pull together" in goal-oriented groups and that "esprit de corps" or "team spirit" spur them onto greater efforts than they would likely evidence as individuals. A recently initiated program of research has begun to examine this issue of group versus individual effort. A number of studies conducted by Latané, Harkins, Williams, and others have been reported that call into question such generalizations about the advantages of group effort, revealing that people will exert more effort when they act alone than when they act as a group. For example, in the prototype study in this

research program (Latané, Williams, & Harkins, 1979; Experiment 2), college students were asked to shout as loudly as possible alone and in pseudogroups of two and six. (Participants in pseudogroups shouted alone but thought they were shouting with one or five others.) A sound-level meter was used to measure magnitude of sound production. Contrary to both popular intuition and their own recollections, participants shouted in pseudogroups of two at 82% of their individual level, and in pseudogroups of six at only 74% of their individual level. The authors labelled this phenomenon "social loafing."

Subsequent studies have found social loafing in an impressive variety of tasks, including hand clapping, typing, swimming, evaluating poems, producing ideas, and signal detection (cf. Latané, Harkins, & Williams, 1980). This research has revealed that identifiability of outputs appears to be an important mediator of social loafing. Williams, Harkins, and Latané (1981) found that loafing occurs when individuals perform in groups that obscure the identifiability of their individual outputs, but when they are led to believe that their outputs are identifiable even during group performance, loafing is eliminated. By the same token, when people are led to believe that their outputs are never identifiable, even when they perform alone, individual and group performances are equally poor. The relevant social motive underlying this diffusion of attention explanation may be social approval by observers (experimenters in most of the research). When outputs are not identifiable, the contingency between effort and positive or negative social sanctions is weakened and participants exert less effort.

Social Loafing in Cross-Cultural Perspective

Up until recently, all social loafing research has been conducted

on undergraduate students from the United States. However, since it appears that at least some small group behaviors vary as a function of cultural variables (Mann, 1980), we suspect that social loafing may also differ from culture to culture. If this were the case, universal generalizations about social loafing based on our U.S. undergraduate samples would of course be inappropriate. On the other hand, social loafing may be a transcultural phenomenon rooted in some sort of general biological or economic forces. People the world over may find effort aversive and, therefore, may economize on effort in group situations when their effort is not discernible from that of coactors'.

Group-orientedness. The cultural value dimension that appears most closely related to the tendency toward social loafing in a society is "collectivs" versus "individualistic" orientation. Hofstede (1979), Parsons (1951), Kluckhohn (1956), and others have offered this dimension as one of several that can be used to distinguish among cultures, and a number of cultures can be said to lie at the collective side of the dimension. For example, several cross-cultural psychologists and anthropologists have portrayed Chinese culture as group- or situation-oriented, in contrast to individualistic Western culture (Hofstede, 1979; Hsu, 1963, 1970; Yang, 1965; cf. Hwang, 1981).

Hofstede (1979) gained access to a massive survey of employee values conducted by a multinational corporation in 1968 and 1972. These data included responses from members of 50 occupations in 66 national groups (all of whom were middle class), 40 countries of which yielded fully analyzable data. Factor analyses of the questionnaire items yielded four factors, one of which was labelled "individualism." Calculation of mean individualism scores for the 40 nations revealed that respondents from

the United States were highest in individualism, followed closely by Australia and New Zealand. Nations whose workers were lowest in individualism included Venezuela, Columbia, Pakistan, and the Chinese on Taiwan. Although the corporation's data collection did not employ representative samples, the finding that middle class Chinese are at the extreme low end of the individualism index whereas middle class U.S. workers are at the high end indicates the great divergence of these two cultures in group-orientedness.

Much of the recent research on Chinese personality has been conducted by K. S. Yang and his associates. Yang (1981a) characterized the Chinese as "socially oriented,"

> defined as a predisposition toward such behavior patterns as social conformity, nonoffensive strategy, submission to social expectations, and worry about external opinions in an attempt to achieve one or more of the [following goals], reward attainment, harmony maintenance, impression management, face protection, social acceptance, and avoidance of punishment, embarrassment, conflict, rejection, ridicule, and retaliation in a social situation. Basically, it represents a tendency for a person to act in accordance with external expectations or social norms, rather than internal wishes or personal integrity, so that he would be able to protect his social self and function as an integral part of the social network (pp. 159-160).

Yang noted that a variety of self-report and experimental studies have found Chinese, compared to Westerners, to be less autonomous, more conforming, more authoritarian, more easily persuaded, higher in "social

interest" (social integration, sociability, interpersonal responsiveness) and cohesiveness in authoritarian settings, more collectivist-oriented in their achievement orientation, and less apt to use equity in distribution of rewards.

Hwang (1981) corroborated Yang's characterization of the Chinese in a recent review and abstracted three Chinese traits: conformity and self-restraint, humility, and holistic perception. The last of these traits is of special interest here, and is defined by Abbott (1970; in Hwang, 1981) as a general tendency to perceive and conceptualize in wholes. Much of the evidence for this Chinese holistic perception is indirect, including performance on tasks requiring gestalt or analytic skills, California Psychological Inventory scores, and TAT responses. Hwang attributes Chinese global perception to the emphasis in Chinese society on the extended family and, in a more general sense, on one's membership in a unit larger than one's self (p. 12).

This emphasis on the group over the individual is also reflected in the Chinese language. The English term "individualistic" is rather complexly translated into Chinese. The true antonym of "group-oriented" is a negative trait adjective similar to "selfish" (ge ren zhu yi - 个人主義 - "individual principle", and the best Chinese correspondent to "individualistic" is a positive trait term that indicates a way of life one pursues only if one cannot serve the collectivity (du shan qi shen - 独善其身 - "alone good yourself".)

Effects of modernization. Some Chinese communities (e.g., Taiwan) have experienced a great deal of acculturation from the West, and the ensuing modernization has had predictable effects on Chinese values and behavior. Studies employing both laboratory tasks (e.g., K. K. Hwang &

Yang, 1972; Yang, 1981a) and standardized personality assessment instruments (e.g., Hchu & Yang, 1975) have revealed lower social orientation among Chinese identified as modernized than among traditional Chinese. Yang (1981b) has advanced an ecological theory similar to the culture and personality approach of Whiting and Child (1953) and Berry's (1976) ecological model that traces traditional and modern Chinese personality to the ancient Chinese agricultural system and to recent modern industrialization, respectively. Despite these observed changes, other studies have failed to find behavioral correlates of modernity. For example, Chu and Yang (1976) found that both modern and traditional Chinese university students departed markedly from Western conceptions of distributive justice, allocating rewards in order to maintain harmonious interpersonal relationships rather than to establish equity. Hwang (1981) noted that values and behaviors on Taiwan are responding to modernization at varying rates, and that some Chinese values have changed little, particularly "Xiao," or filial piety. Closely related to the persistence of Xiao, the extended family remains an important institution, not only on (developing) Taiwan, but also in (highly developed) Japan. These studies, consistent both with Hofstede's (1979) recent multi-nation research and with our own findings presented below, indicate that Chinese personality is currently undergoing change in some societies, but that on Taiwan it remains considerably more group-oriented than in the West.

Group-orientedness and social loafing. Chinese avoidance of conflict, de-emphasis of internal wishes, collectivist achievement orientation, and holistic perception may affect their behavior in work groups. It may be that Chinese are more apt than Westerners to work toward group goals, to view the good of the group as equivalent or superior to the welfare

of the individual. In line with the above comments concerning holistic perception, they may be more apt to view the work group as a single unit or, to put it differently, they may form more highly "cohesive" groups (Davis, 1969). Thus, to the extent that Chinese deemphasize individual reward and form more cohesive groups we might expect them to evidence little social loafing, in contrast to the U.S. undergraduate students used in previous research, limiting the transcultural generality of the phenomenon.

A first test of this hypothesis, performed in the United States by Gabrenya, Latané, and Wang (1981), compared social loafing among Chinese graduate students from the Republic of China (Taiwan) and Hong Kong to U.S. undergraduate and graduate student control groups. Participants clapped and shouted alone and in pairs similarly to the sound production procedure employed in the Latané et al. (1979; Experiment 2) study discussed above. Consistent with our expectations concerning the group-orientedness of Chinese culture, the U.S. participants evidenced significantly greater loafing than the Chinese. The U.S. undergraduates, as in earlier studies, clapped in pairs at 82% of their individual performance level. U.S. graduate students also tended to loaf, clapping in pairs at 93% of their individual level. Chinese graduate students, on the other hand, exhibited a trend in the opposite direction, clapping in pairs at 114% of their individual level. A short self-report instrument designed to tap participants' values and characteristic behaviors concerning group- vs. individual-orientation revealed that the Chinese claimed to be more group-oriented than did both U.S. samples, whereas these latter two groups did not differ in group-orientedness. A measure of the importance of the collective-individual dimensions tapped by the questionnaire

paralleled these findings: Chinese attached greater importance to the degree to which one is more or less group oriented than did the U.S. samples[1]. Hence, overseas Chinese students' task behavior and self-attributions were consistent with previous theoretical and empirical conceptions of Chinese culture. Given that most Chinese participants in the study were from middle or upper middle class professional families, representing the most modernized portion of this Chinese society, Gabrenya et al. characterized their findings as particularly robust.

Despite the theoretical attractiveness and apparent strength of these findings an alternate explanation could not be resolved given the available data. This explanation concerns the effect of the Chinese participants' minority status on their experience in the experimental setting. Several studies reported by McGuire and his colleagues (e.g., McGuire, McGuire, Child, & Fujioka, 1978) have found that one's salient self-concept, or what they term "spontaneous self-concept," is a function of the socially meaningful characteristics in which one is currently unique or deviant. For example, a male is more apt to label himself as such in a room full of females than otherwise. The same effect has been found for social categories like ethnicity and race, suggesting that Chinese students at a U.S. university are more apt to recognize their general uniqueness and their national or ethnic identity in particular than are either Chinese at, say, National Taiwan University or Ohioans at Ohio State University. Having been led to feel unique, the Chinese participants may have perceived the pair of which they were members in the research procedure as a single, cohesive unit. The potential effect of cohesiveness on loafing was demonstrated in a study recently reported by Williams (1981). Williams found that social loafing among (individualistic) U.S. office workers was

eliminated or reversed when they typed in pairs of close friends rather than in pairs of strangers. Further, by thinking of themselves as uniquely Chinese, the Chinese participants may have viewed their effort as reflecting on the social deservingness of all Chinese, hence obliterating the individual reward motives that apparently underly the effects of group size on social loafing (see Yang and Bond, 1980, for a similar analysis.)

The degree to which Chinese participants really did feel unique, and the degree to which this uniqueness increased cohesiveness and reversed social loafing in the Gabrenya et al. study is difficult to determine. Although this effect of social category uniqueness on loafing is certainly interesting in its own light, the transcultural generality of social loafing was left unresolved.

The present study sought to examine social loafing among Chinese in such a manner that the social category uniqueness explanation could be ruled out. This was accomplished by conducting the study in China (Taiwan) and employing grade- and middle-school children participants who took part in their own schools. Previous social loafing research that employed children as participants (Williams & Williams, 1981) found loafing in sound production. Iowa school children in grades K, 4 and 6 clapped in pseudopairs at 96.5, 94, and 91 percent of their individual levels, and shouted in pseudopairs at 93, 95, and 95 percent of their individual levels. Collapsing across sex and type of sound, a developmental trend emerged such that older children loafed more than younger children, suggesting a learning or maturational etiology of the phenomenon.

Procedures nearly identical to those of Gabrenya, Latané, and Wang (1981) and Williams and Williams (1981) were employed in the present study.

Informal observation of the educational process on Taiwan suggested that whereas individual modernization (Westernization) is associated with socio-economic status, as in most developing countries, this influence is felt least strongly at the lower educational levels and most strongly at the university level. Hence, our grade- and middle-school participants, coming from a somewhat broader segment of Chinese society than the Chinese graduate student sample in Gabrenya, et al.'s research (see below), were expected to be even more group-oriented than the earlier Chinese graduate student sample, allowing a reasonably powerful test of the group-orientedness hypothesis unconfounded by social category uniqueness. Further, our use of participants from grades K through 9 was expected to provide information comparable to that of Williams and Williams (1981) that would be relevant to the development of loafing -- or to the development in China of an opposite behavior.

Method

Participant Selection

Participants were students selected from two public schools under the jurisdiction of the City of Taipei, Taiwan, and one private (Catholic) kindergarten also inside Taipei. Five grade levels were employed: K, 2, 3, 6, 9. Two days were required to run each grade, one day for pairs of males and one day for pairs of females. Grade 9 participants attended a middle school (grades 7, 8, 9) located in a mixed middle and working class district noted for its abundance of hospitals. The students had completed eighth grade and were voluntarily attending morning summer school classes in order to score higher on their high school entrance exams to be taken the following year. Teachers selected 20 male and 20 female students from their classes to participate.

Participants from grades 2, 3, and 6 attended a relatively recently constructed grade school in a predominantly new, middle class banking district of Taipei. They had been selected by their teachers in June, prior to the end of the school year, to fill our requested quotas of 20 males and 20 females from each grade. (Students had just completed grades 1, 2, and 5 respectively). The students were given reminder slips when they were selected in June, and the teacher called each student's parents the morning of the research appointment to remind him or her to attend. No-shows received a second call and were run following the completion of grades 2, 3, and 6. The diligence of teachers and students resulted in our obtaining exactly 80 male and 80 female participants from grades 2 through 9 as we had requested. Consistent with Taipei's school regulations, grade 2 through 9 students wore school uniforms when they participated.

Kindergarten-level participants were selected randomly from children enrolled during the previous school year at a kindergarten administered by the Catholic Church and located in the same district as the grade school described above. Kindergarteners volunteered as personal favors of their parents to the school. Perhaps since the average age of kindergarten participants was only 5.6 years, and/or possibly due to the presence of an unfamiliar Westerner, several participants were too fearful to adequately perform the task. Others could not understand the experimental procedure, and about 1/3 were unable to adequately attend to the taped trial instructions. Thus, our final kindergarten sample consisted of 20 males and 18 females, many of whom provided unusable data (see below).

Procedure

Three persons conducted the research: the first and third authors

and a teacher assigned by the schools. The teacher's responsibility was to bring the students to the classroom in which the research was conducted and to keep other students at a distance. The third author (a native Taiwanese) delivered instructions in Mandarian Chinese, and the first author operated a tape recorder and sound-level meter.

A sound production procedure adapted from previous research was employed that allowed nearly automatic control of instructions to participants during the task. Participants were told that they would be asked to make a great deal of sound by shouting and clapping. Little rationale was offered for this task (research with college students offered an "accoustics research" type of rationale) — and no students seemed to require one. The instructions emphasized the importance of shouting and clapping on cue as loudly as possible and made it clear that the success of the study depended on participants doing so. During the instructions one student was assigned the label "green," and the other "red" for purpose of identification and instruction throughout the study. Pieces of colored cardboard were placed on the floor in front of the students to remind them of this designation.

Participants were seated 5.5 meters (grades 3, 6, 9), 4.5 meters (grade 2), or 1.5 meters (grade K) from the experimenters' table. (Younger children were placed at a closer distance because they were less able to compete with extraneous noise.) A partition was placed between the two participants' chairs so that they could not see each other but had full view of the experimenters. Participants wore light-weight headphones over which prerecorded trial-by-trial instructions (using their assigned color labels) told them (in Mandarin Chinese) when to clap their hands or shout the word "rah" individually or in (pseudo-) pairs. A stereo tape

player wired such that Red and Green each heard only one track, but heard it in both ears, enabled us to give the two participants contradictory instructions on pseudopair trials. On the pseudopair trials one participant was led to believe that he/she and the other were both shouting or clapping simultaneously whereas in fact only one person was doing so. For example, on a clapping pseudopair trial for Red, Red's track of the stereo tabe delivered (in Chinese) "Red and Green both clap; ready, BEGIN!" Green's track, on the other hand, had been constructed to contain the message "red alone clap, ready, BEGIN!" A loud masking noise consisting of 2.5 seconds of prerecorded children shouting and clapping (in four slightly different variations) followed "begin" and, in conjunction with the partition, allowed us to maintain this deception. Sound production was measured with a Genrad 1565-D sound-level meter (C weighting) placed on the experimenters' table. As in the Williams and Williams (1981) study, one experimenter consistently looked down at the sound-level meter throughout this part of the procedure and the other watched the children to be sure they were responding correctly to the recorded instructions on each trial. The sound production procedure consisted of four blocks of eight trials each. Hence, each participant shouted and clapped alone and in a pseudopair four times. The critical comparison of individual versus group effort is amount of sound one person produces alone compared to one person's sound production in a pseudopair.

Following the sound production procedure participants were given candy-flavored throat lozenges and completed either a two-part questionnaire adapted from the Chinese-language questionnaires used by Gabrenya et al. (1981) that measured task perceptions and group-orientedness (grades 6,9) or only the task-perception part of the questionnaire (grade 3; see footnote 1). Grade 2

and K children were not asked to complete either part. Grade 9 participants were fully debriefed, grades 2, 3, and 6 partially, and all participants were given red ball-point pens with the inscription "The Ohio State University" as gifts of appreciation.

Results

For a number of reasons noted above, kindergarten participants failed to produce adequate data -- 14 children did not yield usable shouting data, and 19 did not yield clapping data. Hence, the analyses reported in this section include only grades 2, 3, 6, and 9[2].

Social Loafing

Sound level (dB[C]) data were transformed to energy units (dynes/cm^2) in order to obtain a linear measure of sound production, a procedure employed in all previous sound production social loafing research. Examination of the absolute amounts of sound produced by male and female participants at various grade levels revealed straightforward effects of grade and sex. Participants in higher grades clapped and shouted louder than younger children, Fs(3,152)=48.5 and 18.2, respectively, and males clapped and shouted louder than females, Fs(1,152)=55.9 and 48.0. Interactions between grade and sex also emerged for clapping, $F(3,152)=9.5$, $p < .0001$, and shouting, $F(3,152)=4.4$, $p < .005$, such that females evidenced a generally slower increase in sound output with grade progression and reached a lower level by grade 9 than males.

Social loafing was analyzed as each participant's ratios of pseudopair to individual output while clapping and shouting. Previous sound production task data analyses have employed a within-subjects group size factor rather than a ratio measure of loafing. However, this previous research has typically been conducted with homogeneous participant samples that

were not expected to differ in absolute level of sound production. The present research employed samples that varied markedly in sound output, and the difference in sound output between pseudopair and individual conditions was found to covary with absolute output, artifically increasing sample differences in loafing in a direction that would incorrectly indicate greater loafing among older and among male participants. The ratio measure effectively eliminated this problem.

An overall estimate of amount of loafing evidenced by the Chinese school children was obtained by collapsing across grade and sex. This analysis revealed that participants clapped in pseudopairs at 92% of their individual level, $t(159)=5.7$, $p < .001$ (for difference of loafing ratio from 1.0, the null hypothesis) and shouted in pseudopairs at 89% of their individual level $t(159)=8.5$, $p < .001$. These values are very similar to those found for 4th and 6th grade U.S. children in the Williams and Williams (1981) study, but of course are opposite to the Chinese findings of Gabrenya, Latané, and Wang (1981). Figure 1 presents the sound production findings by grade, sex, and type of sound, including a combined clapping and shouting measure. It can be seen that amount of loafing varied with each of these three variables but a trend opposite to loafing (i.e., greater sound production alone than in a pseudopair) was evidenced by no sample. However, grade X sex analyses of variance performed on the clapping, shouting, and combined sound data revealed only a marginally significant sex effect for clapping, $F(1,152)=2.88$, $p < .10$, such that females tended to loaf less than males. Thus, the apparent variability among age and sex groups was not reliable. Nevertheless, individual t-tests (using a pooled error term) conducted on the combined clapping and shouting measure for each of the eight samples revealed that

all groups but 3rd grade males exhibited a significant social loafing effect (*ps* < .05, two-tailed).

The age trend observed by Williams and Williams (1981) in their study of Iowa school children did not emerge in the present research despite the two studies' virtually identical procedures. A close examination of Figure 1 reveals limited age trends consistent with the Williams' for clapping (grades 3, 6, 9) and for shouting (females in all grades). The exceptions to these trends are grade 2 for clapping and grade 2 and 6 males for shouting (kindergarten was also an exception for males shouting; see footnote 2). No interpretations can be made of these limited trends since they did not approach significance. However, as discussed in detail below, accounting for such group differences in degree of loafing requires close attention to a number of variables that have not been measured in present or previous research, hence may be premature.

Awareness of Loafing

As in previous social loafing research, participants who completed the post-experimental task perception questionnaire (grades 3, 6, 9) reported no awareness of differences in group versus individual effort (*ts* < 1), and no grade or sex effects emerged for these measures (*Fs* < 1). Hence, despite behavioral evidence for social loafing among most groups of participants, they were unaware of their differential effort. Examination of other questionnaire items concerning task difficulty, others' effort and enjoyment of the experiment revealed no task, grade or sex effects (*Fs* < 1).

Group-Orientedness Values

A slightly simplified version of Gabrenya et al.'s (1981) five-item group-orientedness measure, administered to grade 6 and 9 participants,

revealed no grade or sex effects. Although data from a Western sample are not available for comparison to these data, our Chinese respondents scored well to the group-orientedness end of the measure. Mean group-orientedness for grade 6 participants was 7.8 on a 10-point scale, s.d.= 1.78, and for grade 9 it was 7.93, s.d.=1.78 (high value indicates greater group-orientedness.)

Individual Differences in Social Loafing

Research relating personality and behavior across cultures is typically faced with the problem of within-culture variation in personality and its relationship to behavior (e.g., see Berry, 1976, for a treatment of this problem). Our group-orientedness hypothesis implies that variation among Chinese in group-orientedness should be reflected in the social loafing indices. Correlations between the group-orientedness measure and loafing ratios, however, failed to approach significance. A more inclusive analysis of this relationship was conducted by performing median splits on the group-orientedness item responses and the importance rating responses that accompanied each item. Grade X sex X group-orientedness ANOVAs conducted on the clapping and shouting ratios revealed no significant effects of either the group-orientedness or derived variable. This absence of a relationship between group-orientedness values and behavior is not in itself damaging to the group-orientedness hypothesis, however, since there was very little variability in the group-orientedness measure reported above.

The pattern of correlations among sound production measures was consistent with these findings. The average correlation between shouting and clapping loafing ratios (over eight grade X sex samples, using Fisher's Z transformation) was only .18, yet the average relationship between sound

produced alone and in pseudopairs was .92 for clapping and .95 for shouting. This pattern suggests a strong effect of physical strength (confounded with overall willingness to accede to the experimenters' request for maximal output) on sound production but a relatively minor effect of a consistent "decision" across sound modes to loaf or to not loaf. Hence, although most participants loafed, little variability in amount of loafing could be attributed to individual differences, as a high correlation between clapping and shouting ratios would have indicated. (We return to the issue of the relationship between individual differences and loafing below.)

Discussion

In marked contrast to Gabrenya, Latané and Wang's (1981) earlier findings, Chinese school children on Taiwan evidenced social loafing, and did so on both the shouting and clapping portions of the sound production procedure. The strength of this finding suggests that social loafing can occur in both individualistic and group-oriented cultures, with the qualifications noted below. It also further implies an explanation of the Gabrenya et al. findings that is based on the effect of social category uniqueness on cohesiveness. Hence, whereas these earlier findings are further weakened by the present data, the possibility that they reflect an interesting phenomenon in need of research is enhanced.

Cross-Cultural Comparisons of Social Loafing

Criteria for cross-cultural comparisons. As noted in the Introduction, social loafing research in the U.S. seems to indicate that loafing occurs when participants believe that their individual outputs cannot be distinguished by the experimenter, hence reducing the contingency between task effort and the experimenter's positive or negative sanctions (see

Williams, Harkins, & Latané, 1981). This explanation assumes that participants (a) realize that their outputs are indistinguishable in groups, and (b) attach subjective value to the experimenter's evaluative response to their outputs. The first requirement may be questioned for very young children. Were children not to evidence social loafing one could question their ability to understand the effect of group effort on diffusion of observers' attention. The U.S. (Williams and Williams, 1981) and Chinese research with children, however, seems to support this assumption, since loafing was found for children as young as grades K and 2. Nevertheless, were loafing not found in a culture at such a young age, a cultural developmental lag in acquisition of this particular type of social knowledge could be implicated as easily as a cultural values or "modal personality" difference.

The second assumption of the diffusion of outputs explanation of social loafing involves the subjective experience of the research participants, including their social motives in the experimental setting and such related issues as their acceptance of the experimental rationale, the importance they attach to it, their attitude toward the experimenter, and so on. Previous loafing research conducted in the U.S. has compared only samples from the same population (i.e., undergraduate students) which would not be expected to differ in the subjective experiences of their participants, allowing quantitative comparisons of degree of loafing. Cross-cultural (perhaps even cross-age or cross-sex) comparisons, however, must be made with more caution. Culture, the "global variable" (Brown & Sechrest, 1980), may affect degree of loafing in any of several ways related to the subjective experiences of the participants of the cultures involved, none of which may be related to such variables as group-orient-

edness. Thus, unless the "subjective factors" can be identified and controlled in cross-cultural loafing research, quantitative comparisons of degree of loafing between cultures should be avoided. Rather, qualitative comparisons, such as "loafing observed" and "the opposite of loafing observed" should be employed.

Transcultural generality of social loafing. The findings of the present study are consistent with those of other, unpublished, cross-cultural research and point to the transcultural generality of social loafing. All of these unpublished studies employed the sound production procedure, and all but one were conducted in classroom settings. Weiner, Pandey, and Latané (1980) observed social loafing among male and female sixth grade students in Allahabad, India. Their sample was middle class and Westernized, attending an English-language Catholic school, thus leaving open the question of social loafing among more traditional Indians. Interestingly, Weiner, et al. pointed out that social loafing is consistent with traditional Indian values concerning work. Latané[3] recently found social loafing among grade school children in Bangcock, Thailand, and Williams and Williams[4] found it for clapping but not for shouting among adult male lower-level management personnel in Japan. Hence, our Chinese findings appear to fit a growing set of cross-cultural data that supports the cross-cultural generality of social loafing. Cultural differences in group-orientedness and other values or norms related to group productivity do not appear to mediate the tendency to loaf, despite evidence for their effect on other social behaviors. However, further research is needed before a definitive statement about the transcultural generality of social loafing can be made. This research will need to take into account various alternate views of the relationships among social loafing, social loafing research methods, and cultural values.

Social Loafing and Cultural Values

Although we (Gabrenya et al., 1981) and others (e.g., Hofstede, 1979) have observed differences in group-oriented values between the U.S. and China, we did not find evidence in the present study for a corresponding difference in social loafing between members of these two societies. This finding may be attributed to the relationship between group-orientedness values and collective behavior, bearing on the group-orientedness hypothesis advanced above, to certain characteristics of the present methodology, or to both. An exclusively methodological source of the observed transcultural generality might be that the sound production procedure is not sufficiently sensitive for differences in cultural values to manifest themselves. Participants were isolated from each other such that communication was impossible and irrelevant to the task. The groups were artificially assembled, were typically composed of acquaintances or strangers, and were given no time or means of becoming anything more than aggregates. Williams (1981), discussed above, demonstrated the effect of one alteration of this situation on social loafing: friends worked harder in pseudopairs than as individuals, but strangers loafed. Cultural variables such as group-orientedness may not have an opportunity to affect behavior under such socially restrictive conditions.

Of all human productive activity, however, socially restricted situations may comprise a significant proportion. Members of many cultures may be required, frequently or infrequently, to perform tasks in groups in which individuals' outputs are not easily distinguishable, group members are not well known to each other, and little social interaction takes place. Hence, the sound production procedure is probably representative of a type of group task setting in which many people in many cultures participate,

suggesting that social loafing may indeed be the transcultural phenomenon that our and others' research would indicate.

Although group-orientedness values apparently do not mediate social loafing under these circumstances, they may do so under other conditions. The transcultural generality observed for socially restricted tasks may not hold in other kinds of group situations in certain cultures, for example among close friends, in ongoing work groups such as the Japanese "quality circle" (Ouchi, 1981), or on Israeli Kibbutzim, each involving a high degree of social interaction. Although social loafing may differ between cultures under certain circumstances, future research employing other methods is needed to determine these cultures and circumstances.

Another source of this absence thus far of any findings that suggest cultural differences in social loafing might lie in our choices of cultural value dimensions and cultures. In regard to the relationship between group-orientedness values and social behavior, evidence garnered by Yang and his associates, reviewed above, suggests that Chinese behavior does differ from Westerners' in some social situations in ways that are consistent with our group-orientedness hypothesis for social loafing. For example, Chu and Yang (1976; see above) found that Chinese college students emphasize the maintenance of interpersonal harmony rather than the establishment of equity in allocating rewards. However, these situations differed from the present research in that they involved greater social interaction (see also Bond, Leung, & Wan, 1982). Therefore, in line with the previous discussion of social loafing methodology, one might expect that a social loafing procedure designed to represent group task situations that include a high degree of social interaction would be sensitive to cultural difference in group-orientedness. The interesting possibility also exists that

cultural variables besides group-orientedness might underly differences in social loafing. Other personality traits or values, perhaps more directly related to the maintenance of ongoing collective behavior, such as tolerance for close interpersonal contact, cooperation or equality values or norms, ability to delay gratification, personal space concerns, and so on may either influence or be prerequisite to some forms of collective behavior.

A shortcoming in our exploration of cultural differences in social loafing has been our exclusive use of urban participants. Some research on social interaction has found urban vs. rural residence a more important variable than cultural differences (e.g., Madsen, 1981). The transcultural generality of social loafing observed thus far may not hold in traditional, rural portions of the surveyed cultures. Small villages or tribal communities in which all members are intimately known to each other, analogously to Williams' (1981) friendly typists, may fail to loaf even in the sound production procedure. Somewhat better exemplars of group-oriented participants may also be found in rural rather than urban settings. The profession by Chinese participants in the present study of group-oriented values and the self-report evidence for Chinese social orientation reviewed in the Introduction may indicate in part residual traditional cultural values that have been supplemented or supplanted among urban residents by other, more Western values. Behavioral evidence for Chinese group-orientedness belies a strong form of this argument, but nevertheless the newer, urban Western values may hold sway to some degree over the "ideal" traditional values expressed on questionnaires. This observation points to the efficacy of future social loafing research in rural settings.

Directions for Future Research

These comments point to some directions for future cross-cultural social loafing research. First, future research should diversify oper-

ationally, employing tasks that maintain control but involve more social interaction. Such tasks would probably have greater ecological validity than sound production, approximating real work groups. Second, in addition to enhancing the social nature of the tasks, future research should turn to more skill-dependent activities. The sound production procedure may be termed a "maximizing" task in which the goal is to produce as much as possible of a quantity, in this case, sound (Steiner, 1972). Much human behavior is not so much concerned with quantity as with quality, however, and the use of "optimizing" tasks in which the criterion for good performance is quality would make a valuable contribution to the social loafing literature. The third direction that cross-cultural social loafing research should take is to examine other cultural antecedents of loafing. One set of additional independent variables was proposed in our comments concerning the "other values" that may affect collective effort and the necessity of employing tasks more sensitive to variations in these variables. Identification of relevant other values would suggest specific comparisons between certain cultures. One specific subcultural comparison that merits future examination is urban versus rural residence. Viewed together, these direction for future research suggest that a more inclusive theory of social loafing can be constructed, after sufficient research, that incorporates a task setting X culture interaction. Such a theory would have interesting implications for cross-cultural comparisons of worker productivity.

Conclusion

These findings indicate that the social loafing phenomenon that has been observed in the United States among a variety of age groups and at a number of tasks is also evidenced by Chinese school children on Taiwan. When these findings are viewed with cross-cultural social loafing research

performed in other cultures--India, Thailand, Japan--it appears that the United States findings can be generalized well to non-Western societies. However, this transcultural generality has yet to be extended to rural subcultures, and we speculate that future research employing other types of group task situations may not find social loafing in some cultures.

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Footnotes

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1. A combination of back-translation and the "committee approach" (Brislin, Lonner, & Thorndike, 1973) involving two native Chinese, one bilingual, was used to adapt both the English and Chinese version items so as to render them apparently functionally equivalent. The Chinese version was adapted for use with children in the present study by two Chinese school teachers familiar with the particular Chinese characters that sixth grade children would typically have learned.

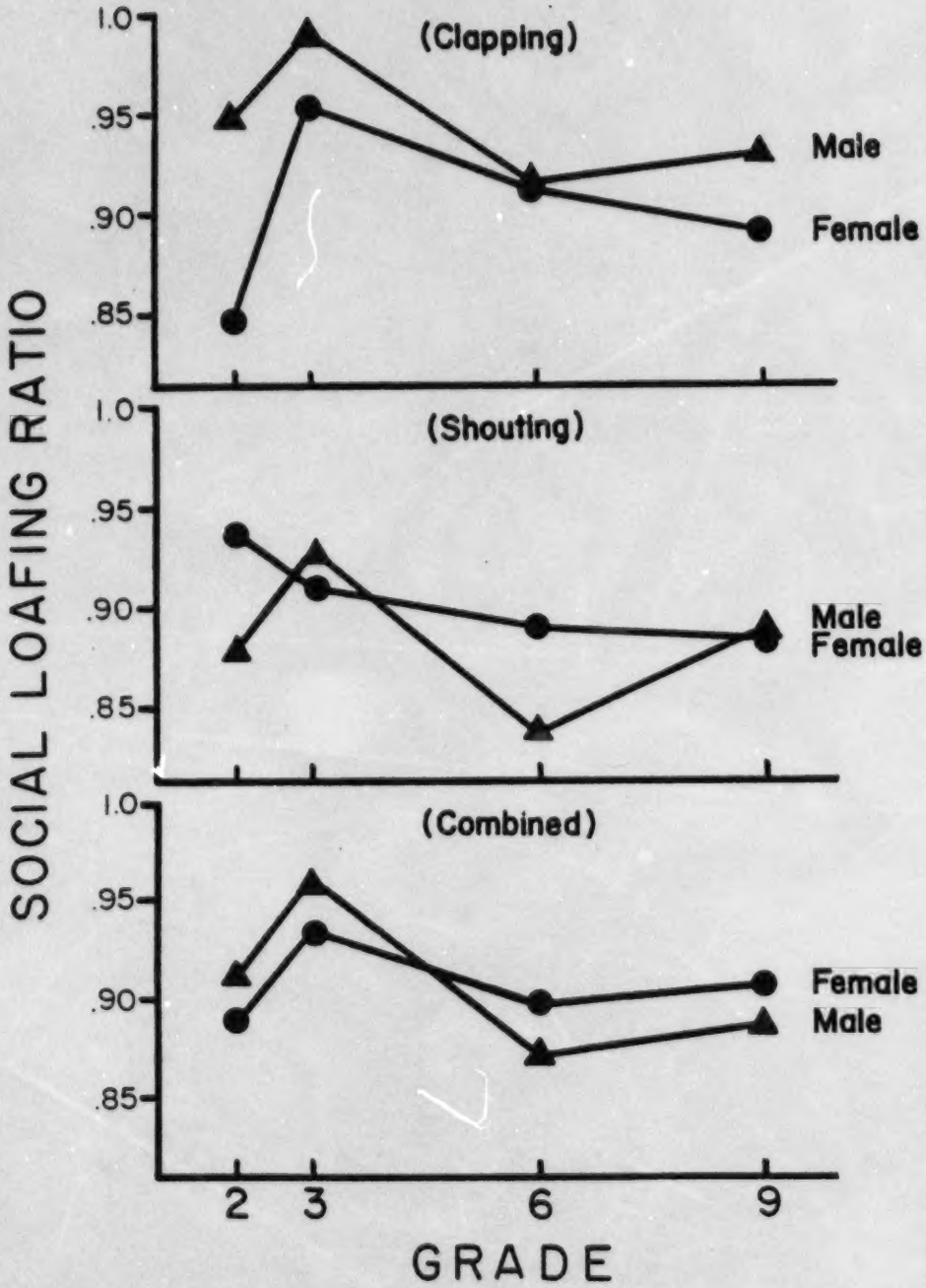
2. Loafing ratios for the grade K participants were: male shouting, .82, $t(15)=2.9$, $p < .05$; females shouting, .91, $t(9)=1.8$, n.s.; males clapping, .99, $t(14) < 1$; females clapping, .96, $t(5) < 1$. Collapsing across sex and type of sound, kindergartners evidenced a significant social loafing effect, $M=.91$, $t(18)=3.3$, $p < .01$.

3. Unpublished data, 1982.

4. Unpublished data, 1982.

Figure Caption

1. Clapping, shouting, and averaged clapping and shouting ("combined") social loafing ratios by grade level and sex of participants. Low ratio values indicate greater loafing.


SOCIAL LOAFING RATIO
1.0
.95
.90
.85
(Clapping)
Male
Female
(Shouting)
Male
Female
(Combined)
Female
Male
2
3
6
9
GRADE